

AMENDMENTS TO THE CLAIMS

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Claim 1 (currently amended): An apparatus for sensing a characteristic of a droplet in an integrated circuit manufacturing equipment, the apparatus comprising:

a first plate and a second plate forming a capacitor, the first plate and the second plate being disposed to allow a droplet to pass between them; and

an amplifier coupled to the first plate, the amplifier configured to generate an output signal indicative of a characteristic of the droplet.

Claim 2 (original): The apparatus of claim 1 further comprising:

a bias voltage coupled to the second plate; and

wherein the amplifier includes a charge sensitive amplifier.

Claim 3 (original): The apparatus of claim 2 further comprising an input transistor coupled between the amplifier and the first plate.

Claim 4 (original): The apparatus of claim 1 wherein the characteristic includes drop mass.

Claim 5 (original): The apparatus of claim 1 wherein the characteristic includes drop velocity.

Claim 6 (original): The apparatus of claim 1 wherein the droplet is from an ink-jet print head configured to deposit material on a wafer.

Claim 7 (original): The apparatus of claim 1 wherein the output signal is employed to calibrate a nozzle that dispensed the droplet.

Claim 8 (cancelled)

Claim 9 (original): The apparatus of claim 1 wherein the output signal is provided to a signal processing device.

Claim 10 (original): The apparatus of claim 9 wherein the signal processing device includes a computer.

Claim 11 (original): The apparatus of claim 1 wherein the apparatus is part of a sensor module located near a wafer processing chamber to allow calibration of a print head that dispensed the droplet.

Claim 12 (original): The apparatus of claim 11 wherein the print head includes a plurality of nozzles.

Claim 13 (currently amended): An apparatus in an integrated circuit manufacturing equipment, the apparatus comprising:
means for dispensing a droplet;

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means for detecting the droplet; and
means for generating a signal indicative of a characteristic of the droplet.

Claim 14 (original): The apparatus of claim 13 wherein the characteristic includes drop mass.

Claim 15 (original): The apparatus of claim 13 wherein the characteristic includes drop velocity.

Claim 16 (currently amended): A method of sensing a droplet characteristic in an integrated circuit manufacturing equipment, the method comprising:
dispensing a droplet;
detecting the presence of the droplet between two parallel plates that form a capacitor; and
generating an output signal indicative of a characteristic of the droplet.

Claim 17 (cancelled)

Claim 18 (original): The method of claim 16 further comprising:
processing the output signal to sense drop mass.

Claim 19 (original): The method of claim 16 further comprising:
processing the output signal to sense drop velocity.

Claim 20 (original): The method of claim 16 further comprising:
calibrating a nozzle based on the output signal.

Claim 21 (currently amended): An apparatus for tuning a mechanism for dispensing materials in an integrated circuit manufacturing equipment, the apparatus comprising:
a sensor configured to detect a passing material;
an amplifier coupled to the sensor, the amplifier configured to generate an output signal indicative of a characteristic of the material; and
a control system configured to generate a tuning signal based on the output signal, the tuning signal being provided to a mechanism that dispensed the material.

Claim 22 (original): The apparatus of claim 21 wherein the output signal is indicative of a mass of the material.

Claim 23 (original): The apparatus of claim 21 wherein the output signal is indicative of a drop velocity of the material.

Claim 24 (currently amended): An apparatus for sensing a characteristic of a material in an integrated circuit manufacturing equipment, the apparatus comprising:
a capacitive sensor configured to sense a passing material; and
an amplifier coupled to the capacitive sensor, the amplifier configured to generate an output signal indicative of a characteristic of the material.

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Claim 25 (original): The apparatus of claim 24 wherein the characteristic includes drop mass.

Claim 26 (original): The apparatus of claim 24 wherein the characteristic includes drop velocity.
